

# Winter Resiliency Improvement Program

**Michael A. Semeraro III P.E.**

*Mott MacDonald, Engineer III - Rail  
Boston, MA*

Rail Conference



# Key Presentation Take-Aways

- Risk Mitigation, Resiliency Improvements & State of Good Repair Improvements can be accomplished together.
- Existing Contracting methods can be used in innovative ways to deliver value.
- Clearly defined goals can help facilitate a collaborative work environment.



# The Backbone of the MBTA

- Red Line
- Orange Line
- Busiest Lines in the System
- Connects the North and South



**Legend**

<b>RL</b> RED LINE	<b>SL</b> SILVER LINE and branches (SL1, SL2, SL3, SL4, SL5)	<b>Commuter Rail</b>	<b>Accessible station</b> All MBTA and Massport bus and ferry services are accessible	<b>Free Logan Airport shuttle bus</b>	<b>Customer Communications &amp; Travel Info</b> 617-222-3200, 1-800-392-6100, TTY 617-222-5146, www.mbta.com
<b>M</b> MATTAPAN LINE	<b>GL</b> GREEN LINE and branches (Terminates at Park St, Terminates at N. Station, Terminates at Lechmere)	<b>000</b> KEY BUS ROUTE Frequent Service	<b>Rapid Transit transfer station</b>	<b>Amtrak service</b> Back Bay, North & South Stations	<b>MBTA Transit Police: 911</b> TTY 617-222-1200
<b>OL</b> ORANGE LINE		<b>FERRYS</b>	<b>Commuter Rail transfer station</b>	<b>Elevator/escalator/lift updates:</b> 800-392-6100	
<b>BL</b> BLUE LINE				<b>*Boylston:</b> Accessible for Silver Line only	











224-167

224-165



# Program Overview

## Evolution of Program Management

Winter of 2015

- Record Snowfall over 100"
- Impaired MBTA Operation

May – Dec. 2015

- Phase I – Change Order

Dec. 2015 - Present

- Phase II – Design – Bid - Build





# Phase I Program Overview

- Red Line Work
  - 69,796 LF of Third Rail Replaced
  - 27,913 LF of Heater Element Infrastructure
  - 32,757 LF of Heater Element
- Orange Line
  - 83,464 LF of Heater Element Infrastructure
  - 41,732 LF of Heater Element



# Phase I Program Overview



- Six Weather Stations
- Repair of Lechmere Canopy
- Demolition of Braintree Canopy
- 30 Garage Door Replacements
- 2 Salt Dome Repairs
- 600V Mobile DC Substation

Total Program Cost FY16

\$45.4 million



















# Phase II Program Overview

- 54,784 LF of Third Rail Replaced
- 45,308 LF of Heater Element Infrastructure
- 27,392 LF of Heater Element
- 28,792 LF of Signal Trough



# Phase II Program Overview



- Three Station Platform Track Replacements – Both Tracks
- Running Rail Replacement – Clayton Curve 5,000 LF
- Spot Tie Replacement - 4,000 Each

Total Project Budget

\$31.6 Million



# Expansive Work Zone

- Over 5 miles of Track
- Multiple Yards
- Multiple Companies
- MBTA Maintenance
- Additional Contracts















0472

OUTBOUND →

DOWN

DANGER  
DO NOT  
ENTER





DANGER



QUINCY ADAMS  
+ INBOUND

QUINCY

ELEVATOR

QUINCY ADAMS











# The Value of Program Management

- Assist agency staff in accomplishing tasks
  - Allows agency staff to maximize their time and efforts
  - Reduced overall agency costs to program

	Phase I	Phase II
Program Total Cost	\$ 39,283,233.00	\$ 31,568,075.00
Program Management Fee	1.8%	2.6%
Construction & Material Expenditures	69%	79%



# The Value of Program Management

- Expedited project schedule to reduce procurement time

	Concept Planning	Design Procurement	Design	Construction Procurement	Total Duration
MassDOT Experience	4 Months – Utilized Actual Duration	6 Months	4 Months – Utilized Actual Duration	7-9 Months	21 – 23 Months
WRIP Phase II	4 Months	1 Month Concurrent w/ Concept Planning	4 Months	2 ½ Months	10 ½ Months



# Keys to Success

## Program Management

Identified Scope Early

Interdepartmental Cooperation

Productivity Tracking & Metrics

Program Cost Tracking

## Expedited Tasks

Early Material Procurement

Environmental Mapping

Survey of Station Pits

Review of Design Documents

## Added Value

Construction Observations

RL / OL Early Work

Drainage Exploration

Flexibility to address needs of the agency

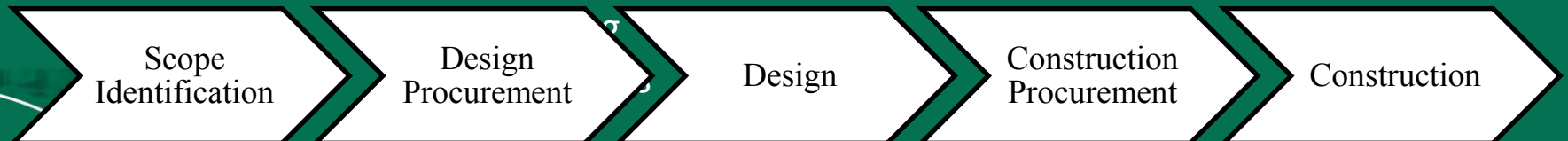
## Relationship Building

Consultant / Agency

MBTA Departments

Designer

Contractor











**DANGER**  
NO OPERATIONS  
IN THIS AREA

QUINCY ADAMS  
REPUBLICAN SAFETY BELT  
ATLAS

QUINCY ADAMS  
REPUBLICAN SAFETY BELT  
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ATLAS

RED LINE  
INBOUND

← INBOUND

QUINCY ADAMS  
ELEVATOR

OUTBOUND

QUINCY ADAMS

← INBOUND

QUINCY ADAMS

QUINCY ADAMS

# Program Recognition

Transforming Capital Delivery



## 2. Shorten construction procurement: winterization shows success is possible

### Construction Procurement Process – SUCCESS STORY

- Winter Resiliency FY 2016 Actual Spending: \$45.4M
- Winter Resiliency FY 2017 Spending Forecast: \$41.4M
- Winter Resiliency II
  - 6/10/16 Advertising Date
  - 7/6/16 Bid Opening
  - 7/25/16 FMCB Approval
  - 7/26/16 Notice of Award
  - 8/15/16 Contract Executed and NTP Issued
- 66 Days from Project Advertisement to Contractor NTP
- First Weekend Work on Schedule for the Weekend of 9/10

**We should achieve these results on all jobs**



**Questions?**

Thank You.

